

10/110874

CIRCULAR IGNITION COIL ASSEMBLY

(DP-310441)

BACKGROUND ART

1. Field of the Invention

[0001] The invention relates to an internal combustion engine spark ignition system. More specifically, the invention relates to an ignition coil designed to be mounted to a spark plug without damaging the ignition coil or the spark plug.

2. Description of the Related Art

[0002] The internal combustion engine can be categorized in several ways. One such way to categorize the internal combustion engine is whether the design requires a spark to combust the fuel within cylinders of the internal combustion engine. Diesel engines do not require a spark to be generated within the cylinders thereof. Non-diesel consuming internal combustion engines do, however, require a spark to ignite the fuel within the cylinders thereof.

[0003] With regard to non-diesel internal combustion engines the design thereof include the utilization of pencil ignition coils to operate the spark plugs. Recent developments in internal combustion engines include coils, sometimes called pencil coils, that are designed to be mounted directly to the spark plug. In addition, the pencil ignition coil is designed to primarily extend through the spark plug bore of the internal combustion engine. In other words, the pencil ignition coil is a long, thin pencil ignition coil designed to utilize the wasted space of the spark plug bore of the internal combustion engine.

[0004] United States Patent 6,501,365, issued to Elliott et al. on December 31, 2002 discloses an ignition coil having a generally circular core. The generally circular core is fabricated from a plurality of flat metal elements that are stacked together to create the core. The flat metal elements vary in widths such that the widths of the flat metal elements become smaller in size progressively as the flat metal elements are positioned away from the center of the core.